

50103-394/SEA 3001

PATTERNING OF HIGH COERCIVITY  
MAGNETIC MEDIA BY ION  
IMPLANTATION

ABSTRACT OF THE DISCLOSURE

A servo-patterned magnetic recording medium, comprising:

a magnetic layer having a surface with substantially uniform topography,  
the magnetic layer including a data zone and a servo pattern, the servo pattern  
5 comprising:

(a) a first patterned plurality of regions of first, higher values of  
magnetic coercivity  $H_c$  and magnetic remanence-thickness product  $Mrt$ ; and

(b) a second patterned plurality of ion-implanted regions of second,  
lower values of  $H_c$  and  $Mrt$ ; wherein the second, lower values of  $H_c$  and  $Mrt$  are  
10 sufficiently lower than the first, higher values of  $H_c$  and  $Mrt$  as to permit sensing  
for enabling accurate positioning of a read/write transducer head in the data zone  
but sufficiently high for providing the medium with thermal stability, high  
amplitude of magnetic transition, and high signal-to-noise ratio.